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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/630,111

07/30/2003

Otis G. Peterson

S-100,643

8327

35068

7590

11/20/2006

LOS ALAMOS NATIONAL SECURITY, LLC  
LOS ALAMOS NATIONAL LABORATORY  
PPO. BOX 1663, LC/IP, MS A187  
LOS ALAMOS, NM 87545

EXAMINER

PALABRICA, RICARDO J

ART UNIT

PAPER NUMBER

3663

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/630,111	<b>Applicant(s)</b> PETERSON, OTIS G.	
	<b>Examiner</b> Rick Palabrica	<b>Art Unit</b> 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 8, 11, 18, 19, 21 and 25-29 is/are pending in the application.
- 4a) Of the above claim(s) 11 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 8, 18, 19, 21, and 25-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. Applicant's 10/25/06 Amendment, which directly amended claim 1 and traversed the rejection of claims in the 3/27/06 Office action, is acknowledged.

2. Applicant argues that the amended claims define over the applied art in said Office action because: a) "neither von Ohain nor Burke teach or suggest a core of a powdered fissile metal hydride in combination with a non-fissile material positioned separate from the core where the non-fissile material absorbs and desorbs said hydrogen isotope based on temperature"; b) "the combination of von Ohain and Burke simply fails to teach or suggest the presently claimed invention as von Ohain requires a separator to capture and return nuclear material from the core and return such nuclear material to the reactor cavity"; c) "assertions of the Office Action that Burke's uranium hydride inherently includes both fissile  $U^{235}$  and non-fissile  $U^{238}$  does not yield the presently claimed invention wherein a non-fissile material is deliberately positioned separate from the core." The examiner disagrees.

As to argument a): First, it has been well settled that one cannot show nonobviousness by attacking references individually where the rejections are based on the combination of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ (Fed. Cir. 1986). The examiner rejected the claims based on the combination of von Ohain and Burke, and not based on each reference applied individually.

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Second, as presently set forth, the claim 1 recites the limitation, "A nuclear fission reactor comprising: ... "a non-fissile material positioned separate from said core." This limitation means that there is not one, unique non-fissile material, but a plurality of such materials disposed separate from the core. Also, the claim recites the inclusive, open-ended transitional term "comprising", which is synonymous with "including", "containing", or "characterized by", and does not exclude additional, unrecited elements. See, e.g., MPEP 2111.03 and *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) ("Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim).

The Federal Circuit could not have been clearer on this matter regarding the plurality of the claimed non-fissile material, when it cautioned:

*"This court has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase, 'comprising,'" KCI Corp v. Kinetic Concepts, Inc., 223 F.3d 1351, 1356 (Fed. Cir. 2000).*

As stated in section 6 of the 3/27/06 Office action, Ohain teaches such material configuration as applicant's case because the claim limitation reads on the non-fissile U<sup>238</sup> material that lies outside reactor cavity C.

Third, as to the limitation, "where the non-fissile material absorbs and desorbs said hydrogen isotope based on temperature," this is a process limitation or a statement of intended or desired use, and not a structural limitation. The claims are directed to an

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apparatus and not to a process. The cited limitation does not serve to patently distinguish the claimed structure over that of the reference, as long as the structure of the cited reference is capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531.

[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

Ohain is capable of being used in the same manner and for the intended or desired use as the claimed invention. Note that it is sufficient to show that said capability exists, which is the case for Ohain's non-fissile U<sup>238</sup> material outside the reactor cavity C.

As to argument b), the above-cited features upon which the applicant relies (i.e., no separator required to capture and return nuclear material from the core and return such nuclear material to the reactor cavity) are not recited in rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Additionally, if said unrecited feature is considered by the applicant to be critical to his invention, then such omission would amount to a gap between the

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essential elements. In this case, the claim(s) would be incomplete and would be rejected under 35 U.S.C. 112, second paragraph. See MPEP § 2172.01.

As to argument c), the examiner did not apply Burke as a teaching reference for the positioning of a non-fissile material separate from the core. Such teaching is neither necessary nor required because the primary reference, Ohain, already teaches such non-fissile material configuration relative to the core. See examiner's response to argument a) above.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 8, 18, 19, 21 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over H. von Ohain et al. (U.S. 3,618,322) in view of Burke (U.S. 3,156,747). H. von Ohain et al. disclose the applicant's claims except for the metal hydride.

The reasons are the same as those stated in section 6 of the 3/27/06 Office action, as further clarified in section 2 above, which reasons are herein incorporated.

***Conclusion***

4. This is a continuation of applicant's earlier application of the same number. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:00-4:30, Mon-Thurs.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RJP

November 29, 2006

  
RICARDO J. PALABRICA  
PRIMARY EXAMINER